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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
08/886,388	07/01/97	SANDHU	MI22-713

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EXAMINER
HUGHES JR, W

ART UNIT	PAPER NUMBER
2811	

DATE MAILED: 01/21/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/886,388

Applicant(s)
Sandhu

Examiner
Bill Hughes

Group Art Unit
2811



☒ Responsive to communication(s) filed on Jul 1, 1997

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 43-50 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 43-50 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 43-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pricer et al. Pricer discloses (see the embodiment of Figures 1-2 and 8-13) a (trench) capacitor structure comprising a stem, and, in cross-section, at least two laterally opposed fins interconnected with and projecting laterally from the stem, the stem having a maximum and minimum width which is less than the minimum photolithographic feature dimension with which the capacitor is fabricated, wherein the individual fins have upper surfaces which are planar across an entirety of the fins (see Figure 2), the upper surfaces of at least two of the fins (in fact, all of them) being parallel to one another. Pricer does not specifically disclose in this embodiment:

a. That the capacitor be a stacked capacitor. However, the claims as written require only a "capacitor construction," not necessarily a stacked capacitor. Moreover, even if the claims were read (or amended) to require a stacked capacitor, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the embodiment above in combination with the embodiment of Figure 1 to form a stacked capacitor (having a sub-lithographic stem), as an obvious design choice.

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b. A pair of adjacent capacitors fabricated relative to a semiconductor substrate, the adjacent capacitors having a minimum lateral spacing from one another which is less than the minimum photolithographic feature dimension with which the capacitors are fabricated. However, as noted in the previous Action, duplicating parts for a multiplied effect is evidence of obviousness. Anyone practicing the invention of Pricer, having already used the methodology for achieving sub-lithographic dimensions in forming the capacitor stem, would surely use the same concept in forming (spaces between) the rest of the desired capacitors.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bill Hughes whose telephone number is (703) 308-6183.

Tom Thomas

Tom Thomas
Supervisory Patent Examiner
Technology Center 2800

wgh

January 8, 1999